# Gunter, Jason

From:

Nations, Mark <mnations@doerun.com>

Sent:

Monday, August 11, 2014 12:48 PM

To:

Gunter, Jason

Cc:

Yingling, Mark; James, Kevin; Neaville, Chris; Montgomery, Michael;

robert.hinkson@dnr.mo.gov; brandon.wiles@dnr.mo.gov; Ty Morris (TMorris@barr.com);

Hedrick, Samantha K.

Subject:

July Leadwood Progress Report

Attachments:

LW 07-14.doc; 2014-07-17 LW NPDES Pace Lab Report.pdf

Jason,

Attached is the July Progress report.

Mark

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OTCR

40482417

Superfund

auda



Remediation Group

Mark Nations
Mining Properties Manager
mnations@doerun.com

August 11, 2014

Mr. Jason Gunter Remedial Project Manager U.S. Environmental Protection Agency Region 7 - Superfund Branch 11201 Renner Blvd. Lenexa, KS 66219

Re: The Doe Run Company - Leadwood Mine Tailings Site Monthly Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 50 of the Unilateral Administrative Order (Docket No. CERCLA-07-2006-0272) for the referenced project and on behalf of The Doe Run Company, the progress report for the period July 1, 2014 through July 31, 2014 is enclosed. If you have any questions or comments, please call me at 573-518-0800.

Sincerely,

Mark Nations

Mining Properties Manager

#### Enclosures

c: Mark Yingling – TDRC (electronic only)

Kevin James – TDRC (electronic only)

Chris Neaville – TDRC (electronic only)

Michael Montgomery – TDRC (electronic only)

Robert Hinkson - MDNR

Brandon Wiles - MDNR

Ty Morris - Barr Engineering

# **Leadwood Mine Tailings Site**

Leadwood, Missouri

# Removal Action - Monthly Progress Report

Period: July 1, 2014 – July 31, 2014

## 1. Actions Performed or Completed This Period:

- a. Work continued on the development of the Post Removal Site Control Plan for the site.
- b. Work continued on a long-term surface water management plan for the site. This document was submitted to EPA and MDNR for review on July 2, 2014.
- c. Doe Run received comments concerning the surface water management plan from MDNR on July 30, 2014. Based on discussions with EPA, it is anticipated that Doe Run will receive comments from EPA during the next period.
- d. In accordance with the verbal approval received from EPA, Doe Run began the clearing and grubbing activities in the East Seep and Erosion Area associated with the surface water management plan. The vegetation removed during this activity was piled on the north side of the closed quarry. As of the end of the period, work on this task had been completed.

## 2. Data and Results Received This Period:

- a. During this period, water samples were collected from downstream of Leadwood Dam and the East Seep and Erosion Area, as well as from upstream and downstream of the confluence of Eaton Creek with Big River. The analytical results for this event are included with this progress report.
- b. During this period, the ambient air monitoring samples for June were processed and the Ambient Air Monitoring Report for June 2014 was completed. A copy of the Ambient Air Monitoring Report for June is attached.

## 3. Scheduled Activities not Completed This Period:

a. None.

#### 4. Planned Activities for Next Period:

- a. Address comments from MDNR and EPA on the long-term surface water management plan, finalize the document, and resubmit the document.
- b. Finalize and submit the Post Removal Site Control Plan for the site.
- c. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- d. Complete air monitoring activities as described in the Removal Action Work Plan.

#### 5. Changes in Personnel:

a. None.

# 6. Issues or Problems Arising This Period:

a. None.

#### 7. Resolution of Issues or Problems Arising This Period:

a. None.



July 25, 2014

Amy Sanders The Doe Run Company P. O. Box 500 Viburnum, MO 65566

RE: Project: NPDES (Leadwood)

Pace Project No.: 60173907

# Dear Amy Sanders:

Enclosed are the analytical results for sample(s) received by the laboratory on July 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

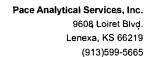
Jamie Church

jamie.church@pacelabs.com

Project Manager

**Enclosures** 







# **CERTIFICATIONS**

Project;

NPDES (Leadwood)

Pace Project No.:

60173907

**Kansas Certification IDs** 

9608 Loiret Boulevard, Lenexa, KS 66219 WY STR Certification #: 2456.01 Arkansas Certification #: 13-012-0 Illinois Certification #: 003097 lowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407 Utah Certification #: KS00021



# **SAMPLE SUMMARY**

Project:

NPDES (Leadwood)

Pace Project No.:

60173907

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173907001	16400 / LEADWOOD DOWNSTREAM	Water	07/17/14 10:16	07/18/14 08:30
60173907002	16401 / LEADWOOD UPSTREAM	Water	07/17/14 09:59	07/18/14 08:30
60173907003	16402 / LEADWOOD 001	Water	07/17/14 12:26	07/18/14 08:30
60173907004	16403 / LEADWOOD 002	Water	07/17/14 12:12	07/18/14 08:30



# **SAMPLE ANALYTE COUNT**

Project:

NPDES (Leadwood)

Pace Project No.:

60173907

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60173907001	16400 / LEADWOOD DOWNSTREAM	EPA 200.7	TDS	6	PASI-K
		EPA 200.7	SMW	3	PASI-K
		SM 2540D	NDL	1	PASI-K
		EPA 300.0	OL	1	PASI-K
60173907002	16401 / LEADWOOD UPSTREAM	EPA 200.7	TDS	6	PASI-K
		EPA 200.7	SMW	3	PASI-K
		SM 2540D	NDL	1	PASI-K
		EPA 300.0	OL	1	PASI-K
60173907003	16402 / LEADWOOD 001	EPA 200.7	TDS	3	PASI-K
		SM 2540D	NDL	1	PASI-K
		SM 2540F	NDL	. 1	PASI-K
		EPA 300.0	OL	1	PASI-K
60173907004	16403 / LEADWOOD 002	EPA 200.7	TDS	. 3	PASI-K
		SM 2540D	NDL	1	PASI-K
		SM 2540F	NDL	1	PASI-K
		EPA 300.0	OL	1	PASI-K



# **ANALYTICAL RESULTS**

Project:

NPDES (Leadwood)

Pace Project No.: 60173907

Date: 07/25/2014 10:05 AM

Sample: 16400 / LEADWOOD **DOWNSTREAM** 

Lab ID: 60173907001

Collected: 07/17/14 10:16 Received: 07/18/14 08:30 Matrix: Water

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qu
200.7 Metals, Total	Analytical I	Method: EPA	200.7 Prepa	ration Meth	od: EF	PA 200.7			
Cadmium	ND ug	ı/L	5.0	0.56	1	07/18/14 17:30	07/24/14 10:48	7440-43-9	
Calcium	<b>43500</b> ug	ı/L	100	7.8	1	07/18/14 17:30	07/24/14 10:48	7440-70-2	
Lead	<b>6.2</b> ug	ı/L	5.0	2.2	1	07/18/14 17:30	07/24/14 10:48	7439-92-1	
Magnesium	<b>25100</b> ug	ı/L	50.0	17.0	1	07/18/14 17:30	07/24/14 10:48	7439-95-4	
Total Hardness by 2340B	<b>212000</b> ug	ı/L	500		1	07/18/14 17:30	07/24/14 10:48		
Zinc	ND ug	ı/L	50.0	12.5	1	07/18/14 17:30	07/24/14 10:48	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical I	Method: EPA	200.7 Prepa	ration Meth	od: EF	PA 200.7			
Cadmium, Dissolved	ND ug	ı/L	5.0	0.56	1	07/22/14 16:25	07/23/14 15:54	7440-43-9	
Lead, Dissolved	ND ug	ı/L	5.0	2.2	1	07/22/14 16:25	07/23/14 15:54	7439-92-1	
Zinc, Dissolved	ND ug	ı/L	50.0	12.5	1	07/22/14 16:25	07/23/14 15:54	7440-66-6	
2540D Total Suspended Solids	Analytical I	Method: SM	2540D						
Total Suspended Solids	ND m	g/L	5.0	5.0	1		07/22/14 10:57		
300.0 IC Anions 28 Days	Analytical I	Method: EPA	300.0						
Sulfate	<b>29.7</b> mg	g/L	2.0	0.11	2		07/22/14 19:13	14808-79-8	



# **ANALYTICAL RESULTS**

Project:

NPDES (Leadwood)

Pace Project No.: 60173907

Sample: 16401 / LEADWOOD **UPSTREAM** 

Lab ID: 60173907002

Collected: 07/17/14 09:59 Received: 07/18/14 08:30

Matrix: vvai	vater
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OFSTREAM									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical	Method: EP/	3 200.7 Prepa	PA 200.7					
Cadmium	ND u	g/L	5.0	0.56	1	07/18/14 17:30	07/24/14 10:51	7440-43-9	
Calcium	<b>41700</b> ug	g/L	100	7.8	1	07/18/14 17:30	07/24/14 10:51	7440-70-2	
Lead	ND ug	g/L	5.0	2.2	1	07/18/14 17:30	07/24/14 10:51	7439-92-1	
Magnesium	<b>25400</b> ug	g/L	50.0	17.0	1	07/18/14 17:30	07/24/14 10:51	7439-95-4	
Total Hardness by 2340B	<b>209000</b> ug	g/L ·	500		1	07/18/14 17:30	07/24/14 10:51		
Zinc	ND u	g/L	50.0	12.5	1	07/18/14 17:30	07/24/14 10:51	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical	Method: EP/	3 200.7 Prepa	aration Meth	od: EF	PA 200.7			
Cadmium, Dissolved	ND u	g/L	5.0	0.56	1	07/22/14 16:25	07/23/14 15:57	7440-43-9	
Lead, Dissolved	ND ug	g/L	5.0	2.2	1	07/22/14 16:25	07/23/14 15:57	7439-92-1	
Zinc, Dissolved	ND u	g/L	50.0	12.5	1	07/22/14 16:25	07/23/14 15:57	7440-66-6	
2540D Total Suspended Solids	Analytical	Method: SM	2540D						
Total Suspended Solids	<b>13.0</b> m	g/L	5.0	5.0	1		07/22/14 10:57		
300.0 IC Anions 28 Days	Analytical	Method: EP/	300.0						
Sulfate	<b>19.4</b> m	g/L	1.0	0.098	1		07/22/14 11:39	14808-79-8	

07/22/14 19:27 14808-79-8



# **ANALYTICAL RESULTS**

Project:

NPDES (Leadwood)

Pace Project No.:

300.0 IC Anions 28 Days

Date: 07/25/2014 10:05 AM

Sulfate

60173907

Sample: 16402 / LEADWOOD 001	Lab ID:	60173907003	Collected: 07/17/14 12:26			Received: 07/	/18/14 08:30 Ma	latrix: Water			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7										
Cadmium	ND u	ıg/L	5.0	0.56	1	07/18/14 17:30	07/24/14 10:53	7440-43-9			
Lead	ND ug/L		5.0	2.2	1	07/18/14 17:30	07/24/14 10:53	7439-92-1			
Zinc	<b>725</b> ι	ıg/L	50.0	12.5	1	07/18/14 17:30	07/24/14 10:53	7440-66-6			
2540D Total Suspended Solids	Analytical	Method: SM 25	540D								
Total Suspended Solids	ND r	mg/L	5.0	5.0	1		07/22/14 10:57				
2540F Total Settleable Solids	Analytica	Method: SM 25	540F								
Total Settleable Solids	ND r	nL/L/hr	0.20	0.20	1		07/18/14 14:55				

20.0

1.1

20

Analytical Method: EPA 300.0

150 mg/L

07/22/14 19:42 14808-79-8



# **ANALYTICAL RESULTS**

Project:

Sulfate

Date: 07/25/2014 10:05 AM

NPDES (Leadwood)

343 mg/L

Pace Project No.: 60173907

Sample: 16403 / LEADWOOD 002	Lab ID: 6	0173907004	Collecte	d: 07/17/14	12:12	Received: 07/	18/14 08:30 M	atrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical N	Method: EPA 2	00.7 Prepa	ration Meth	od: EP	A 200.7			
Cadmium	ND ug/	L.	5.0	0.56	1	07/18/14 17:30	07/24/14 11:00	7440-43-9	
Lead	<b>49.6</b> ug/L		5.0	2.2	1	07/18/14 17:30	07/24/14 11:00	7439-92-1	
Zinc	<b>2880</b> ug/L		50.0	12.5	1	07/18/14 17:30	07/24/14 11:00	7440-66-6	
2540D Total Suspended Solids	Analytical M	fethod: SM 25	40D						
Total Suspended Solids	ND mg	ı/L	5.0	5.0	1		07/22/14 10:57		
2540F Total Settleable Solids	Analytical M	lethod: SM 25	40F						
Total Settleable Solids	ND mL	/L/hr	0.20	0.20	1		07/18/14 14:55		
300.0 IC Anions 28 Days	Analytical N	Method: EPA 3	0.00						

50.0

2.8 50



Project:

NPDES (Leadwood)

Pace Project No.:

60173907

QC Batch:

MPRP/28119

Analysis Method:

EPA 200.7

QC Batch Method:

EPA 200.7

Analysis Description:

200.7 Metals, Total

Associated Lab Samples:

60173907001, 60173907002, 60173907003, 60173907004

METHOD BLANK: 1412785

Matrix: Water

Associated Lab Samples:

60173907001, 60173907002, 60173907003, 60173907004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	ug/L	ND -	5.0	07/24/14 10:33	
Calcium	ug/L	ND	100	07/24/14 10:33	
Lead	ug/L	ND	5.0	07/24/14 10:33	
Magnesium	ug/L	ND	50.0	07/24/14 10:33	
Total Hardness by 2340B	ug/L	ND	500	07/24/14 10:33	
Zinc	ug/L	ND	50.0	07/24/14 10:33	

1412786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	1040	104	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Lead	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Total Hardness by 2340B	ug/L		66700			
Zinc	ug/L	1000	911	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	•
--	---

1412787

1412788

	60	173939001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	ug/L	ND	1000	1000	1050	1050	105	105	70-130		10	
Calcium	ug/L	62000	10000	10000	72400	71900	104	99	70-130	1	9	
Lead	ug/L	45.6	1000	1000	992	991	95	95	70-130	0	10	
Magnesium	ug/L	22700	10000	10000	32100	32100	95	94	70-130	0	9	
Total Hardness by 2340B	ug/L	248000			313000	312000				1		
Zinc	ug/L	771	1000	1000	1660	1660	89	89	70-130	0	11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

NPDES (Leadwood)

Pace Project No.:

60173907

QC Batch:

MPRP/28161

Analysis Method:

EPA 200.7

QC Batch Method:

EPA 200.7

Analysis Description:

200.7 Metals, Dissolved

Associated Lab Samples:

60173907001, 60173907002

METHOD BLANK: 1414353

Matrix: Water

Associated Lab Samples: 60173907001, 60173907002

Date: 07/25/2014 10:05 AM

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Cadmium, Dissolved	 ug/L	ND	5.0	07/23/14 15:43	
Lead, Dissolved	ug/L	ND	5.0	07/23/14 15:43	
Zinc, Dissolved	ug/L	ND	50.0	07/23/14 15:43	

LABORATORY CONTROL SAMPLE:	1414354					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	943	94	85-115	

MATRIX SPIKE & MATRIX SP	IKE DUPLICATI	E: 14143	55		1414356								
			MS	MSD	_								
	601	73907002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10		
Lead, Dissolved	ug/L	ND	1000	1000	1000	996	100	99	70-130	1	10		
Zinc, Dissolved	ug/L	ND	1000	1000	941	935	94	93	70-130	1	11		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

NPDES (Leadwood)

Pace Project No.:

60173907

QC Batch:

WET/49169

Analysis Method:

SM 2540D

QC Batch Method:

SM 2540D

Analysis Description:

2540D Total Suspended Solids

Associated Lab Samples:

Associated Lab Samples:

60173907001, 60173907002, 60173907003, 60173907004

METHOD BLANK: 1413951

Matrix: Water

60173907001, 60173907002, 60173907003, 60173907004

Blank

Reporting

Parameter

Units

Units

Result

Limit

Analyzed

Qualifiers

Total Suspended Solids

mg/L

ND

5.0 07/22/14 10:54

SAMPLE DUPLICATE: 1413952

60173878002 Result

Dup Result

**RPD** 

Max **RPD** 

Qualifiers

Total Suspended Solids

mg/L

mg/L

260

234

10 D6

SAMPLE DUPLICATE: 1413953

Parameter

Parameter

60173883001 Units

Result

Dup Result

RPD

Max RPD

Qualifiers

Total Suspended Solids

Date: 07/25/2014 10:05 AM

320

314

2

11

10

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

NPDES (Leadwood)

Pace Project No.:

60173907

QC Batch:

WETA/30329

Analysis Method:

EPA 300.0

QC Batch Method:

EPA 300.0

Analysis Description:

300.0 IC Anions

Associated Lab Samples:

60173907001, 60173907003, 60173907004

METHOD BLANK: 1413889

Matrix: Water

Associated Lab Samples:

60173907001, 60173907003, 60173907004

Blank

Reporting

Parameter

Units

Result

Limit

Analyzed

Qualifiers

Sulfate

mg/L

ND

1.0 07/22/14 15:08

LABORATORY CONTROL SAMPLE:

1413890

Spike

MS

LCS

LCS

% Rec

Parameter

Units

mg/L

Conc.

5

Result

% Rec

Limits 90-110 Qualifiers

Parameter

Parameter

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

1413891

MSD

1413892

4.9

MSD

36.8

98

MSD

% Rec

Max Qual

Sulfate

Sulfate

60173667001 Result

26.6

Spike Spike Conc. Conc.

10

MS Result

36.7

250

MS % Rec

% Rec

102

Limits **RPD** 

RPD 0 15

MATRIX SPIKE SAMPLE:

Date: 07/25/2014 10:05 AM

1414254

Units

Units

mg/L

60173904001 Result

Spike Conc.

MS Result

Result

MS % Rec

101

% Rec Limits

80-120

Qualifiers

Sulfate

mg/L

253

10

497

97

80-120

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:

NPDES (Leadwood)

Pace Project No.:

60173907

QC Batch:

QC Batch Method:

EPA 300.0

WETA/30330

Analysis Method: Analysis Description: EPA 300.0

60173907002

300.0 IC Anions

Associated Lab Samples: METHOD BLANK: 1413895

Matrix: Water

Associated Lab Samples:

60173907002

Blank Result

Reporting Limit

Analyzed

98

Qualifiers

Sulfate

mg/L

Units

ND

1.0 07/22/14 10:41

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

1413896

Spike Units Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Sulfate

Sulfate

mg/L

Units

mg/L

5

4.9

1414036

Result

610

90-110

95

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

1414035

60173991001

Result

374

MS

Spike

Conc.

MSD Spike

Conc.

250

MS MSD

MS % Rec

MSD % Rec

93

% Rec Limits

80-120

Max RPD RPD

Qual

MATRIX SPIKE SAMPLE:

Date: 07/25/2014 10:05 AM

Parameter

1414037

Parameter Units 60173991002 Result

250

Spike Conc.

MS Result

Result

606

MS % Rec

% Rec Limits

Qualifiers

15 1

Sulfate

mg/L

166

250

405

96

80-120

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



## **QUALIFIERS**

Project:

NPDES (Leadwood)

Pace Project No.:

60173907

## **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

# **LABORATORIES**

PASI-K Pace Analytical Services - Kansas City

# **ANALYTE QUALIFIERS**

Date: 07/25/2014 10:05 AM

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project:

NPDES (Leadwood)

Pace Project No.:

60173907

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173907001	16400 / LEADWOOD DOWNSTREAM	EPA 200.7	MPRP/28119	EPA 200.7	ICP/21248
60173907002	16401 / LEADWOOD UPSTREAM	EPA 200.7	MPRP/28119	EPA 200.7	ICP/21248
60173907003	16402 / LEADWOOD 001	EPA 200.7	MPRP/28119	EPA 200.7	ICP/21248
60173907004	16403 / LEADWOOD 002	EPA 200.7	MPRP/28119	EPA 200.7	ICP/21248
60173907001	16400 / LEADWOOD DOWNSTREAM	EPA 200.7	MPRP/28161	EPA 200.7	ICP/21277
60173907002	16401 / LEADWOOD UPSTREAM	EPA 200.7	MPRP/28161	EPA 200.7	ICP/21277
60173907001	16400 / LEADWOOD DOWNSTREAM	SM 2540D	WET/49169		
60173907002	16401 / LEADWOOD UPSTREAM	SM 2540D	WET/49169		
60173907003	16402 / LEADWOOD 001	SM 2540D	WET/49169		
60173907004	16403 / LEADWOOD 002	SM 2540D	WET/49169		
60173907003	16402 / LEADWOOD 001	SM 2540F	WET/49120		
60173907004	16403 / LEADWOOD 002	SM 2540F	WET/49120		
60173907001	16400 / LEADWOOD DOWNSTREAM	EPA 300.0	WETA/30329		
60173907002	16401 / LEADWOOD UPSTREAM	EPA 300.0	WETA/30330		
60173907003	16402 / LEADWOOD 001	EPA 300.0	WETA/30329		
60173907004	16403 / LEADWOOD 002	EPA 300.0	WETA/30329		



# Sample Condition Upon Receipt

# WO#:60173907

Client Name: The Doc Run Compo	<b>∞</b> y				Optional
Courier: Fed Ex 10 UPS USPS Client	Commercial I	] Pa	ce 🗆 Other 🗅		Proj Due Date:
Tracking #: 7706 2744 6273	Pace Shipping	Label U	sed? Yes 🗆 🗈	No □	Proj Name:
Custody Seal on Cooler/Box Present: Yes □ No	B Seals int	act: Ye	es 🗆 No 🖽		William Committee Co
Packing Material: Bubble Wrap □ Bubble Ba	ags 🗆	Foam E	] None □	Other i	BI Str
	ype of Ice: 🐠			ples received	l on ice, cooling process has begun.
Cooler Temperature: 2.4		(circle	one)	Date and in	Itials of person examining
Temperature should be above freezing to 6°C				contentă:	74 71.6-
Chain of Custody present:	ØYes □No	□n/A	1		
Chain of Custody filled out:	Yes No	□N/A	2.	<del></del>	
Chain of Custody relinguished:	(K)Yes □No	□N⁄A	3.	<u></u>	
Sampler name & signature on COC:	K∐Yes □No	□N⁄A	4		
Samples arrived within holding time:	Maryes □No	□n⁄a	5.		
Short Hold Time analyses (<72hr):	¥ŽYes □No	□Ņ⁄Ą	6. Selt Solido		
Rush Turn Around Time requested:	□Yes MoNo	□n/a	7.		
Sufficient volume;	Ø Yes Me No	□N/A	8. Insufficient	unpreserved	volume
Correct containers used:	IDYes □No	□N/A		,	
Pace containers used:	MaYes □No	□N⁄A	9.		
Containers intact:	MaYes □No	□n/a	10.	·	
Únpreserved 5035A soils frozen w/in 48hrs?	□Yes □No	<b>₿</b> N/A	11.		
Filtered volume received for dissolved tests?	□Yes □No	<b>Ø</b> N/A	12.		<del></del>
Sample labels match COC:	ØØYes □No	□N/A	:		
Includes date/time/ID/analyses Matrix:	WT .	<u></u>	13.		
All containers needing preservation have been checked.	<b>⊠</b> Yes □No	□N/A			·
All containers needing preservation are found to be in compliance with EPA recommendation.	Maryes □No	□n/a	14.		
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	□Yes ŒNo		Initial when completed	1	_ot # of added
Trip Blank present:	□Yes □No	<b>⊠</b> N/A		······································	
Pace Trip Blank lot # (if purchased):			15.		• • • • • • • • • • • • • • • • • • •
Headspace in VOA vials ( >6mm);	□Yes □No	ØN/A			
			16.		
Project sampled in USDA Regulated Area:	□Yes □No	<b>≝</b> N/A	17. List State:		
<del></del>	OC to Client?	Υ /	<del>5</del>	Required?	Y / N
Person Contacted:	ate/Time: _				
Comments/ Resolution:		- <del>11 23 - 1</del>			
				·	
Prince Church	<del></del>		7/18/14	-	<u> </u>
Project Manager Review:	<del></del>		Date:		

# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

Attention: Amy Sanders  Attention: Amy Sanders  Attention: Amy Sanders  Company Name: The Doe Run Company  Address: PO Box 500  REGULATORY AGENCY  Address: PO Box 500, Viburnum, MO 6556  REGULATORY AGENCY  Address: PO Box 500, Viburnum, MO 6556  REGULATORY AGENCY	Section		ormation:			Sectio		oject Inform	nation:			tion i		ation	c													
Compared				Company				-		-		_				nders	3							Page:	1	of 1	1	
More   March	Address			Company		-		74117			Com	pany						Cor	пра	ny		REGULATORY AGENCY		,				
Section C   C73   SERVEY   TO   CATE   TO   CONTINUE   TO		, , ,									Addr	ess:		PO	Box	500,	Vib	urnu	ım, I	MO	655		VATER					
Section C   Property	Email To	asan	ders@do	perun.com		Purcha	se Or	der No.:		i												UST RCRA		COC#: 6:	35			
SAMPLE   D   Proper Number   Proper Product   Proper Proper Product   Proper Product   Proper Product   Proper Product   Pr	Phone:	(573) 68	39-4535	Fax: (57	73) 244-8179	Project	Nam	e: NP	DES (Lead	dwood)	Pace	Proje	ct									Site Location MO		COUNT O		m17	20-	2
Section C   Sect				5 To 7 Day	15	Project	Num	ber.					e #:									STATE:		100	0	017	570	7
Sample   Dampin   Sample   Dampin   D	toquoo									- 1												Requested Ana	ysis Filtere	d (Y/N)			-	
SAMPLE ID   Sample for MinST BE UNDUE   Sample for MinST		Section C	:						=0755	DATES					Do#	lan /	Droo		ati co		N	N N N N N N N N	NNN	NNN	N	s	- 1	
SAMPLE ID  (AZ, 0-9 1-) Somple Da MUST DE UNQUE  Somple Da MUST DE UNQU		Required S	Sample Inform	mation		es =	MP	- 60	DLLEGIEL	DATE/I	IME	H			Bott	1657	Tes	erva	auve	75	1					Š.	- 1	
SAMPLE ID  (AZ, 0-9 1-) Somple Da MUST DE UNQUE  Somple Da MUST DE UNQU					WATER	NT S	ပ္ပ	COMPOS	SITE START			중					0	Н		c	2	*See Additional Cor	nments B	elow		6	- 1	
SAMPLE ID    0.2. 0.0.1   0.3.					SOIL/SOLID	SL S				GH	CAB	E	S		- 1		H <sub>2</sub> S			2	r E						- 1	
SAMPLE ID  (SAMPLE	3					, and	RA		1			13	E I	9	8		SS	0	님	5.4	SS					ğ	- 1	
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